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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,194	06/26/2001	Jong Hyun Kim	04805.0176-04	9945
22852	7590	04/22/2004	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 1300 I STREET, NW WASHINGTON, DC 20005			NGUYEN, DUNG T	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/891,194

Applicant(s)

KIM ET AL.

Examiner

Dung Nguyen

Art Unit

2871

*aw*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9 and 59-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9 and 59-65 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/05/2004 has been entered.

Applicants' amendment dated 04/05/2004 has been received and entered. By the amendment, claims 9, 59 and newly added claims 60-65 are now pending in the application.

Applicants' arguments dated 04/05/2004 have been considered but are moot in view of the new grounds of rejection as follows:

### ***Terminal Disclaimer***

1. The terminal disclaimer filed on 04/05/2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the US Patent No. 6,091,471 and 6,295,111 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 9 and 59-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art, Schadt et al., Jpn. J. Appl. Phys, Vol. 31, Part 1, No. 7, pp2155-2164, July 1992, in view of Kang et al., US Patent No. 5,464,669.

Regarding claims 9, 59-60 and 62-64, Schadt et al. disclose a method of manufacturing a liquid crystal display comprising the steps of:

- . providing a first alignment layer on a first substrate and rubbing the first alignment layer (conventional alignment layer in graphs a and A of figure 9);
- . providing a second alignment layer on a second substrate and exposing the second alignment layer to unpolarized UV light (pp 2157, line14 and graphs b and B of figure 9);
- . forming a liquid crystal layer (according to an LCD device).

Schadt et al. also disclose a polyimide based material for the rubbing alignment (pp 2158, left column, fourth paragraph) as well as such alignment layers can be used for twisted-nematic, ECB or bend mode liquid crystal cell (see Summary of the article). However, Schadt et al. neither explicitly disclose the step of exposing the second alignment layer to UV light in oblique direction nor the pretilt angle being controlled by photo-energy.

Schadt et al. figure 2 disclose the step of forming an alignment layer including exposure the alignment layer to light in oblique direction. Therefore, it would have been obvious to one skilled in the art at the time of invention was made to form a pretilt angle by exposing an alignment layer to light in oblique direction since it is notoriously well known in the art to form pretilt angles with different directions on such alignment.

Kang et al. also disclose a pretilt angle can be controlled by photo-energy (col. 3, lines 32-34). Therefore, it would have been obvious to one of ordinary skill in the art to control pretilt

angles by photo-energy as shown by Kang et al. in order to pretilt angles with different directions on such alignment, so as to improve a contrast display in an LCD device (see abstract).

Regarding claim 61, although the modification to Schadt et al. do not disclose a polysiloxane based material for the second alignment, it would have been obvious to one skilled in the art at the time the invention was made to use polysiloxane based material for the photo-aligned layer, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 65, the modification to Schadt et al. do not disclose the liquid crystal cell including an IPS mode liquid crystal cell. It would have been obvious to one of ordinary skill in the art to employ an IPS mode liquid crystal cell in the Schadt et al. device, since it is a common practice in the art to improve wide viewing angle in an LCD device.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN  
04/15/2004



**Dung Nguyen**  
**Primary Examiner**  
**Art Unit 2871**